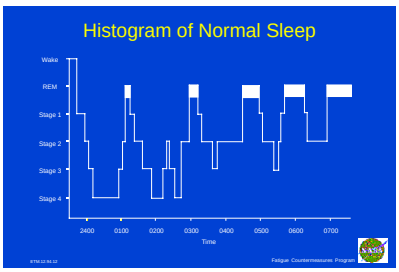
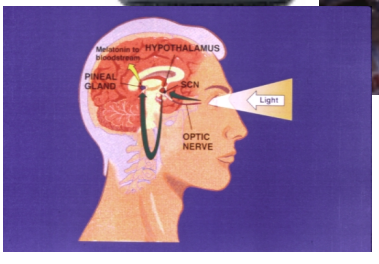
NASA Fatigue Countermeasures Group Study Participants Wanted

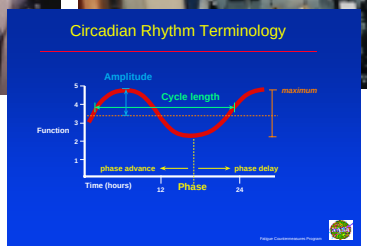
Help us determine how hard the schedules are in your flight environment. Sleep/wake and light exposure will be tracked for a month of flight activity.

Participants must have a current ATP certificate, actively fly for a commercial air carrier and have a desire to make their flight environment a safer place.

Contact Ray Oyung by phone at (650) 604-0020 or by email at royung@mail.arc.nasa.gov







The purpose of this study is: (1) to investigate the rest/wake cycle of commercial airline pilots and assess the levels of fatigue; (2) to evaluate light/dark cycle exposures and scheduling factors which may affect sleep; and (3) to compare the differences between the sleep-wake schedules of short haul and long haul pilots.

The misalignment of circadian rhythms (light/dark cycles) and the sleep/wake cycle increases subjective and physiological sleepiness. This misalignment also increases adverse health effects, performance errors and accidents. Biomathematical models are being developed to predict alertness levels of pilots on various flight schedules. Some models have been validated while others have not. Some models are validated using field data on a limited number of commercial airline pilots on a limited number of possible trip schedules. This research will provide data on the activity and light exposure of commercial airline pilots during 40 days of flight schedules which can be used to refine certain biomathematical models to more accurately estimate actual activity and light exposure of the pilots who operate in this environment.

This ambulatory study of pilot activity will take place over 40 days of an active flight schedule period. An activity monitor will be worn on the non-dominant wrist and a light sensor will be worn around the neck to measure sleep/wake activity and light/dark exposure. A background and sleep questionnaire will be completed providing demographic information, sleep history (at home and during trip layovers), flight experience and levels of fatigue. An activity log will be completed to provide information on primary and secondary sleep periods, flight duty periods, caffeine consumption, and medication intake. A subjective scale of sleepiness will be taken several times per day.

The study will encompass the flight activity of at least 50 participants who volunteer for this research. The study begins 5 days prior to the next monthly flight schedule and ends 5 days after the monthly flight schedule. A package will be sent with all the materials and equipment required to complete the study. A return shipping air waybill will be enclosed in the package of materials for the return shipment back to NASA Ames Research Center after the completion of the study.

If you would like to take part in this important research, please contact Ray Oyung by phone at (650) 604-0020, by fax at (650) 604-2177, or by email at royung@mail.arc.nasa.gov.